

## **Ceramic/Metallic Multi-Hole Probes for High-Temperature Flows**

- **Fluid Flow Applications to 1250°C**
- **Determine Pt, Ps, Flow Angles, Flow Velocity Components**
- **Application Flow Speeds from 5 m/s to Mach 1.0+**
- **Probe Geometry Customizable, Outer Diameters 3+ mm**
- **Contact Aeroprobe for Details and to Discuss Your Application**



**Five-hole ceramic/metallic Aeroprobes (3 mm OD) for use at temperatures up to 1250°C. Developed for vane-mounting in jet turbines, they also provide flow measurement solutions for other high-temperature applications. Note that the surface oxidation and discoloration in the picture is normal and was sustained during probe testing. This does not affect the calibration of the probes. Other than the ability to sustain higher temperatures, these probes have the same capabilities as conventional Aeroprobes (see next page for more information).**

## High-Temperature Multi-Hole Aeroprobe Specifications

Geometry and Construction		Measurement Accuracy (w/Aeroprobe Calibration)	
<b>Probe Geometry</b>	Straight	Flow Angles	< 0.4°
<b>Number of Holes</b>	3, 5	Total Flow Velocity	< 0.8%*
<b>Tip Geometry</b>	60° Conical (3HP, 5HP)	Required Auxiliary Data**	Reference Pressure, Total Temperature
<b>Tip Diameter</b>	4.8 mm, 3.2 mm		
<b>Material</b>	Inconel, Ceramic/Metallic	<b>Flow Angle of Receptivity</b>	±15° (3HP, One Angle), 60° (5HP, Cone)
<b>Pneumatic Connection</b>	Custom, Depending on Temperature at Connection. Typically Inconel Tubing OD 0.5 – 1 mm.	<b>Calibration Flow Speeds</b>	5 m/s to 1000 m/s (Mach = 3.0)
		<b>Pressure Data Reduction</b>	Polynomial Fit (3HP), Multiprobe Software (5HP)
<b>Mounting</b>	Custom, Depending on Application, Typically a Cylinder with Flat	<b>Frequency Response</b>	Low, Best for Determining Time-Averaged Flows, Time Lag Available Upon Request
<b>Probe Reference</b>			
Straight Probe	Roll Reference Flat		
Bent Probe	N/A	<b>Media</b>	Non-Reactive Gases, Water; Other Media Possible – Contact Aeroprobe
<b>Flow Temp. Limits</b>	0°C – 900°C (Inconel), 0°C – 1250°C (Ceramic/Metallic)	<b>Temperature Measurement</b>	N/A, Contact Aeroprobe for Development Possibilities
		*Utilizing 0.1% Accurate Pressure Sensors Properly Rated for Flow Speed	
		**For Most Accurate Compressible P-V Reduction	